

Date: Wednesday, 3/12/2008 1:42:02 PM
User: Kim Johnston

Process Sheet

| | | | |
|-----------------------|---------------------------------------|------------------|--------------------------------------|
| Customer | : CU-DAR001 Dart Helicopters Services | Drawing Name | : 350 SKIDTUBE EXTRUSION (BENT) |
| Job Number | : 37858 | Part Number | : D26003BENT |
| Estimate Number | : 10997 | Drawing Number | : D2600 D1/D2750, D E |
| P.O. Number | : | Project Number | : N/A |
| This Issue | : 3/12/2008 S.O. No. : | Drawing Revision | : D1/ D E <i>02/03/12</i> |
| Prsht Rev. | : NC | Material | : |
| First Issue | : 1/1 Type : MACHINED PARTS | Due Date | : 3/25/2008 Qty: 10 Um: Each |
| Previous Run | : 35527 | | |
| Written By | : | | |
| Checked & Approved By | : <i>08 03 12</i> | | |
| Comment | : Est. B 02.11.28 Reformat KJ | | |

Additional Product

Job Number:



| | | |
|---------|-----------------------|---------------|
| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|

| | | |
|-----|-----------|------------------------|
| 1.0 | D26003120 | Extrusion Round 3" 350 |
|-----|-----------|------------------------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)

Extrusion Bent

Pick:

| | | | |
|-----|-------------|-------------|---------------|
| Qty | Part Number | Description | Batch |
| 1 | D2600-3 | Extrusion | <i>B30682</i> |

DP/BB

8-3-27

(10)

| | | |
|-----|---------|-----------------|
| 2.0 | BENDING | BENDING MACHINE |
|-----|---------|-----------------|



Comment: BENDING MACHINE

Deburr one end of extrusion

Drill #30 pilot holes using DT8689

Open holes to 5/16" and deburr

Bend using CNC bending machine as per program 2750.C and Folio FT003.

Use 5/16 locator pin on buggy "A".

Check fit to Jig DT8150

DP/BB

8-3-27

EL 8-3-27

| | | |
|-----|-----|------------------------------|
| 3.0 | QC5 | INSPECT WORK TO CURRENT STEP |
|-----|-----|------------------------------|



Comment: INSPECT WORK TO CURRENT STEP

Inspect work to Step 6 Ensure fit to Jig DT8150

BF 08-03-28

| | | |
|-----|-------------|-----------------------|
| 4.0 | PACKAGING 1 | PACKAGING RESOURCE #1 |
|-----|-------------|-----------------------|



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *LG*

BF 08-03-28

(10)

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Wednesday, 3/12/2008 1:42:02 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE EXTRUSION (BENT)

Job Number: 37858

Part Number: D26003BENT

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC21

FINAL INSPECTION/W/O RELEASE



08/04/03

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mf

08-03-28

u

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries



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| DESIGN <i>[Signature]</i> | DRAWN BY <i>[Signature]</i> | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED <i>KE</i> | APPROVED <i>[Signature]</i> | DRAWING NO. D2600 | REV. 0 SHEET 1 OF 5 |
| DATE 98.08.20 | | TITLE EXTRUSION | SCALE 1:1 |
| A | 97.01.21 | NEW ISSUE | |
| B | 97.09.09 | CHANGE MATERIAL SPEC. | |
| C | 98.04.16 | ADD D2600-3, UPDATE D2600-1 WIDTH, ADD DIE NO. | |
| D | 98.08.20 | INCREASE MIN. UTS TO 40 KSI | |
| DI | 01.04.17 | ADD PART NUMBERS & DIE NUMBERS <i>40</i> | |

RELEASED
98.08.25 DS

GENERAL NOTES

1. MATERIAL: 6061-T6 (QQ-A-200/8)

MINIMUM YIELD TENSILE STRENGTH = 35 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 40 ksi
MINIMUM ELONGATION = 8 %

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES.

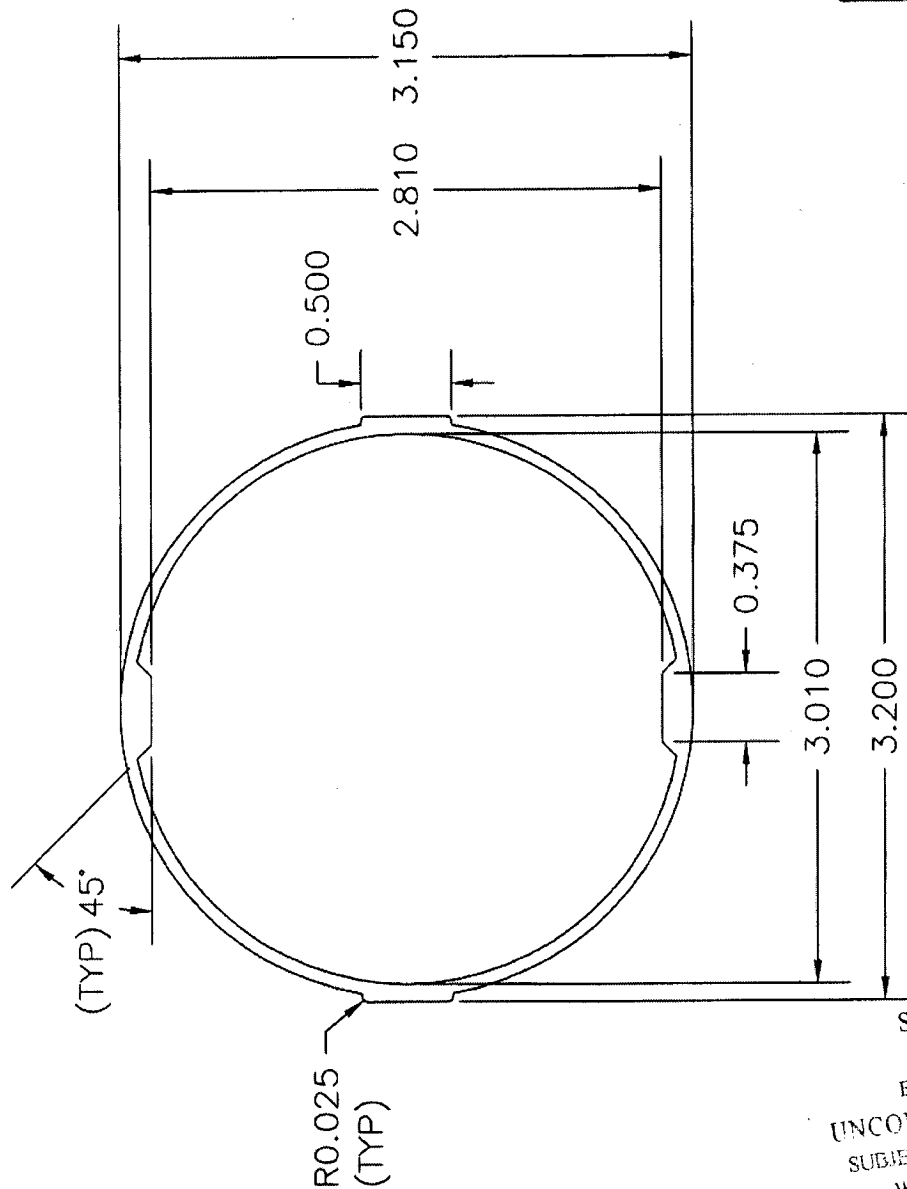
2. BREAK ALL SHARP CORNERS 0.010 MAX.
3. NO TOOLING MARKS.
4. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
5. ALL DIMENSIONS ARE IN INCHES.

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| DATE 98.08.20 | | TITLE EXTRUSION | SCALE 1:1 |

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D2600-1

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OR BON L DIE # 897121 (PREFERRED CHOICE)

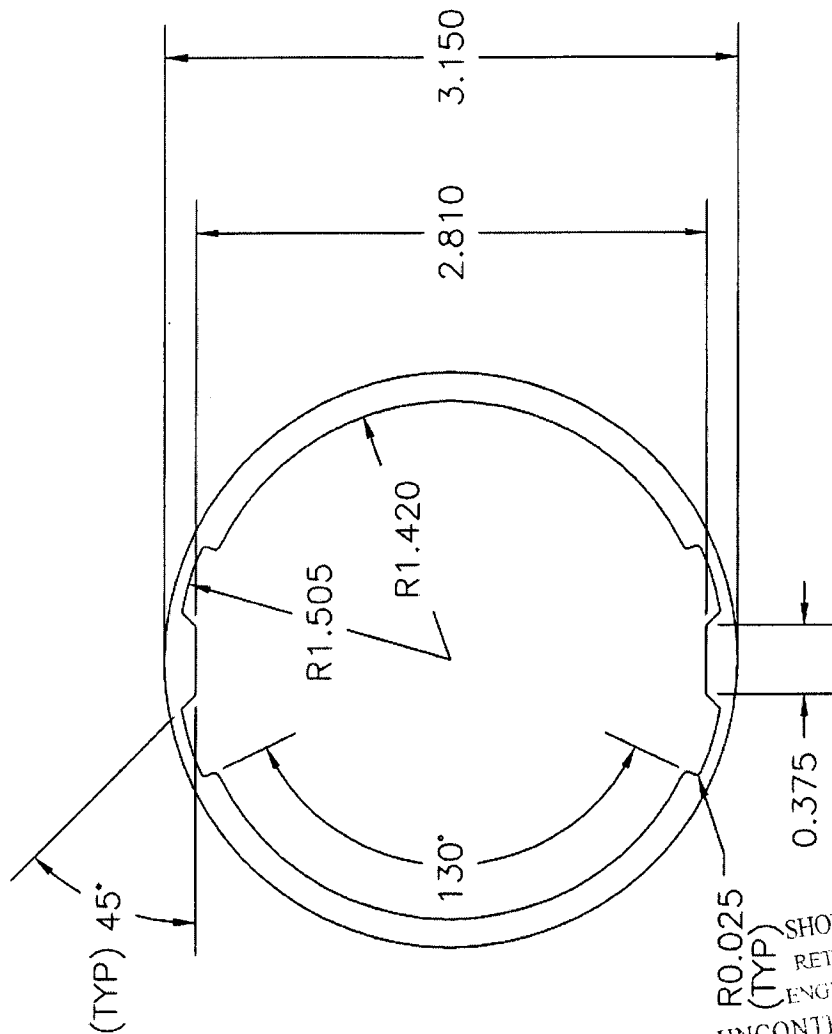
PART NUMBER IS D2600-1-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2600-1-160 IS 160" LONG)





| | | | |
|-------------------------------|--------------------------------|---|------------------------|
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D2600-3

MANUFACTURED WITH CARADON INDALEX DIE # MH-18859

OR BON L DIE # 897122 (PREFERRED CHOICE)

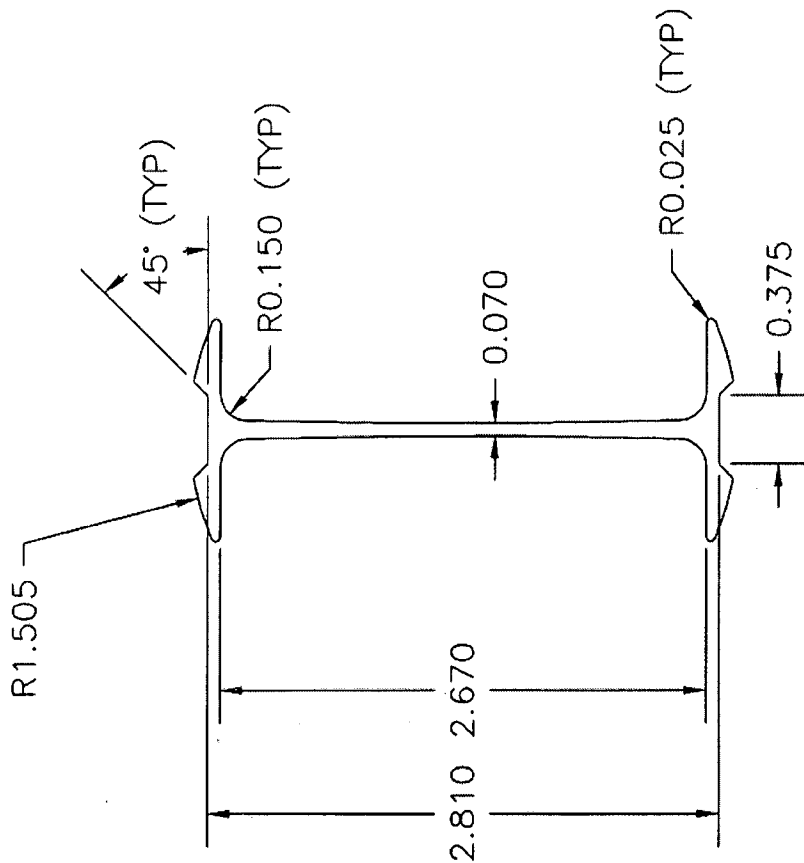
PART NUMBER IS D2600-3-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2600-3-120 IS 120" LONG)





| | | | |
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| CHECKED <i>KE</i> | APPROVED <i>KE</i> | DRAWING NO. D2600 | REV. D SHEET 4 OF 5 |
| DATE 98.08.20 | | TITLE EXTRUSION | SCALE 1:1 |

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D2600-5

MANUFACTURED WITH CARADON INDALOX DIE # MS-18871

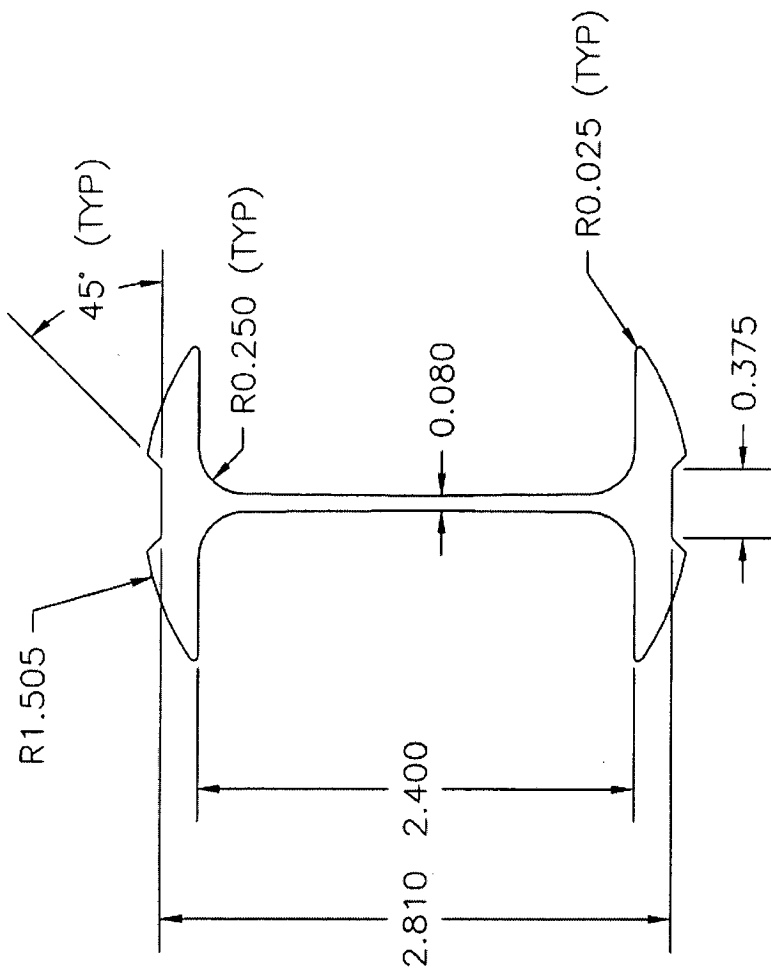
PART NUMBER IS D2600-5-XXX WHERE XXX IS CUT LENGTH IN INCHES
(EG. D2600-5-108 IS 108" LONG)

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| DATE 98.08.20 | | TITLE EXTRUSION | SCALE 1:1 |

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98.8.25 DS



D2600-7

MANUFACTURED WITH CARADON INDALEX DIE # MS-18872
PART NUMBER IS D2600-7-XXX WHERE XXX IS CUT LENGTH IN INCHES
(EG. D2600-7-125 IS 125" LONG)

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07.08.02

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| CHECKED <i>PH</i> | APPROVED <i>[Signature]</i> | DRAWING NO. D2750 | REV. E SHEET 1 OF 5 |
| DATE 07.05.17 | | TITLE 350 SKIDTUBE ASSEMBLY | SCALE NTS |
| REV | DATE | DESCRIPTION | |
| A | 98.04.16 | NEW ISSUE | |
| B | 98.09.01 | CHANGE MS24694-S293 TO AN8-16A | |
| C | 98.11.18 | ADD D2750-3 / D2750-4; INCORPORATE D2738 AND D2740 | |
| D | 06.01.05 | ADD HOLES AND SPACERS FOR APICAL FLOATS INCORPORATE DEO 9133 / 9157 | |
| E | 07.05.17 | CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY(38) NAS1515H3L; REMOVE QTY(10) NAS1515H8L; REMOVE D2741, QTY(2) AN960C816; REMOVE QTY(2) MS21083C8 | |

| Qty -041 | Qty -042 | Qty -043 | Qty -044 | Part Number | Description |
|-------------|-------------|-------------|-------------|---------------|--|
| X | | | | D2750-041 | SKIDTUBE ASSEMBLY, LH |
| | X | | | D2750-042 | SKIDTUBE ASSEMBLY, RH |
| | | X | | D2750-043 | SKIDTUBE ASSEMBLY, LH |
| | | | X | D2750-044 | SKIDTUBE ASSEMBLY, RH |
| 1 | 1 | 1 | 1 | D2739 | WEB |
| 8 | 8 | 8 | 8 | D2743 | SPACER |
| 1 | 1 | 1 | 1 | D2744 | CAP |
| 8 | 8 | 8 | 8 | D2745 | BUSHING |
| 1 | | | | D2750-1 | SKIDTUBE WELDMENT, LH |
| | 1 | | | D2750-2 | SKIDTUBE WELDMENT, RH |
| | | 1 | | D2750-3 | SKIDTUBE WELDMENT, LH |
| | | | 1 | D2750-4 | SKIDTUBE WELDMENT, RH |
| 1 | | 1 | | D3488-041 | BLADE FITTING, LH |
| | 1 | | 1 | D3488-042 | BLADE FITTING, RH |
| 4 | 4 | 4 | 4 | D3490-1 | SPACER |
| 4 | 4 | | | D3490-3 | SPACER |
| | | 4 | 4 | D3490-5 | SPACER |
| 8 | 8 | 8 | 8 | D3492-041 | PLUG ASSEMBLY |
| 8 | 8 | | | D3492-043 | PLUG ASSEMBLY |
| | | 8 | 8 | D3492-045 | PLUG ASSEMBLY |
| 1 | 1 | 1 | 1 | D3535-13 | WEARSHOE |
| 1 | 1 | 1 | 1 | D3535-25 | WEARSHOE |
| 1 | 1 | 1 | 1 | D3535-35 | WEARSHOE |
| 1 | 1 | 1 | 1 | D3536-13 | GASKET |
| 1 | 1 | 1 | 1 | D3536-25 | GASKET |
| 1 | 1 | 1 | 1 | D3536-35 | GASKET |
| 5 | 5 | 5 | 5 | D3537-1 | WEARPAD |
| 8 | 8 | 8 | 8 | D3631-1 | WASHER |
| 42 | 42 | 42 | 42 | ALS4-1032-225 | INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225) |
| 38 | 38 | 38 | 38 | AN3C5A | BOLT |
| 4 | 4 | 4 | 4 | AN3C6A | BOLT |
| 4 | 4 | 4 | 4 | AN3C7A | BOLT |
| 4 | 4 | 4 | 4 | AN6C44A | BOLT |
| 1 | 1 | 1 | 1 | AN8C35A | BOLT |
| 46 | 46 | 46 | 46 | AN960C10L | WASHER |
| 2 | 2 | 2 | 2 | AN960C816L | WASHER |
| 4 | 4 | 4 | 4 | MS21043-6 | NUT |
| 1 | 1 | 1 | 1 | MS21083C8 | NUT |
| 4 | 4 | 4 | 4 | NAS1515H3L | WASHER |
| 2 | 2 | 2 | 2 | NAS1515H8L | WASHER |

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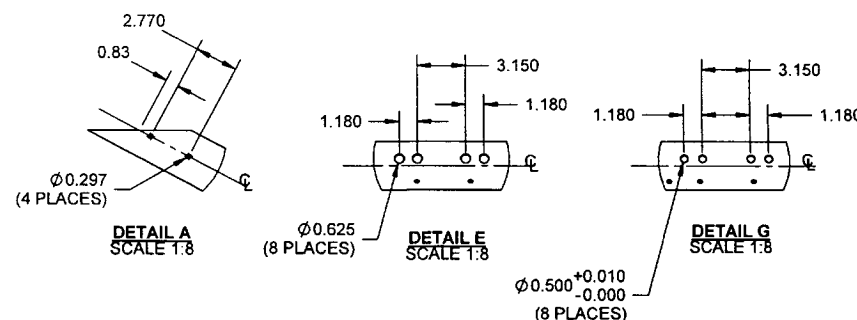
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| DATE 07.05.17 | | TITLE 350 SKIDTUBE ASSEMBLY | SCALE NTS |

GENERAL NOTES:**RELEASED**
07-08-02 *[Signature]*

1. ALL DIMENSIONS ARE IN INCHES.
2. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
3. MAKE FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
4. DAMAGE TOLERANCE ON BENDING:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 12 INCHES ABOVE THE GROUND. NO GOUGING IS ACCEPTABLE IN THE FLAT PORTION OF THE TUBE. GOUGES UP TO 0.020 ARE ACCEPTABLE IN THE BENT PORTION OF THE TUBE. TUBE O.D. SHOULD BE 3.150 ± 0.010 IN THE FLAT PORTION OF THE TUBE. TUBE O.D. SHOULD BE 3.15 ± 0.030 IN THE BENT PORTION OF THE TUBE.
5. ALL HOLES DRILLED ON CENTERLINES EXCEPT THOSE NOTED BY SECTIONS C-C, D-D AND F-F.
6. WELDING TO BE DONE PER DART QSI 004.
7. FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 38 ksi
8. FINISH:
ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
9. INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED IN D2750-1/-2/-3/-4 WELDING DETAIL ON PAGE 4 AND 5. DRILL 'F' SIZE HOLES ($\emptyset 0.297$) FOR WEARSHOE BOLTS. **WORK ORDER 37858**
10. D3488-041 (OR D3488-042) BLADE FITTING AND AN3C5A/AN3C7A WEARSHOE BOLTS TO BE INSTALLED USING SIKAFLEX-241 (OR EQUIVALENT) SEALANT.
11. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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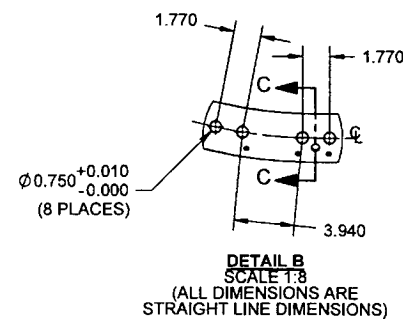
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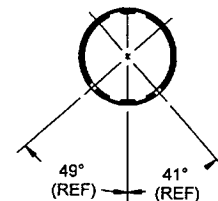
Technical drawing of a circular part, likely a cross-section of a wheel or a similar component. The drawing shows a circle with a center point. A dimension line indicates a radius or diameter of 23.5. The drawing is oriented with a vertical centerline and a horizontal centerline.

SECTION C-C
SCALE 1:4

SECTION D-D
SCALE 1:4



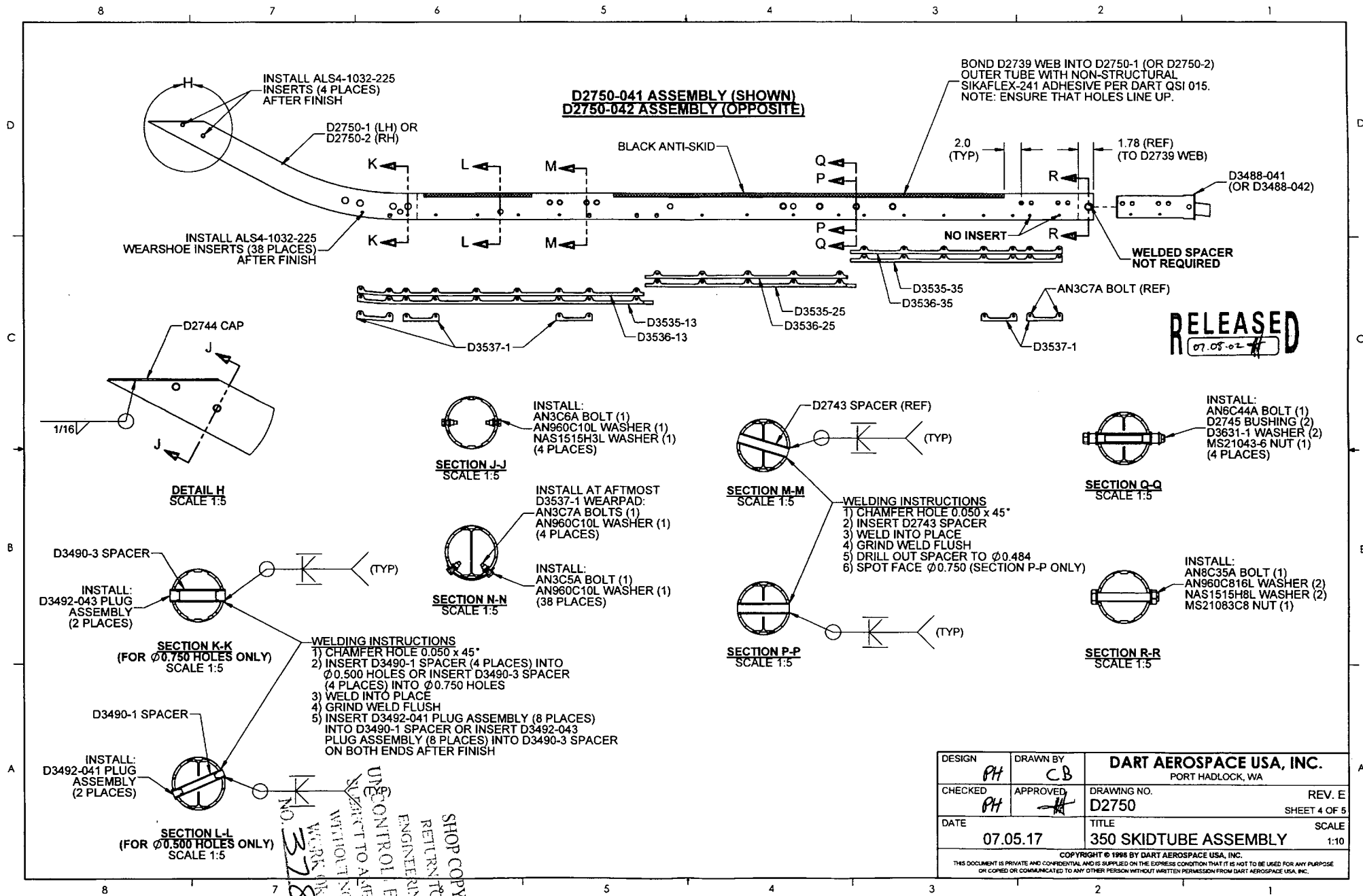
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SECTION F-F
SCALE 1:4

| | | | |
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| DATE 07.05.17 | | TITLE 350 SKIDTUBE ASSEMBLY | SCALE 120 |
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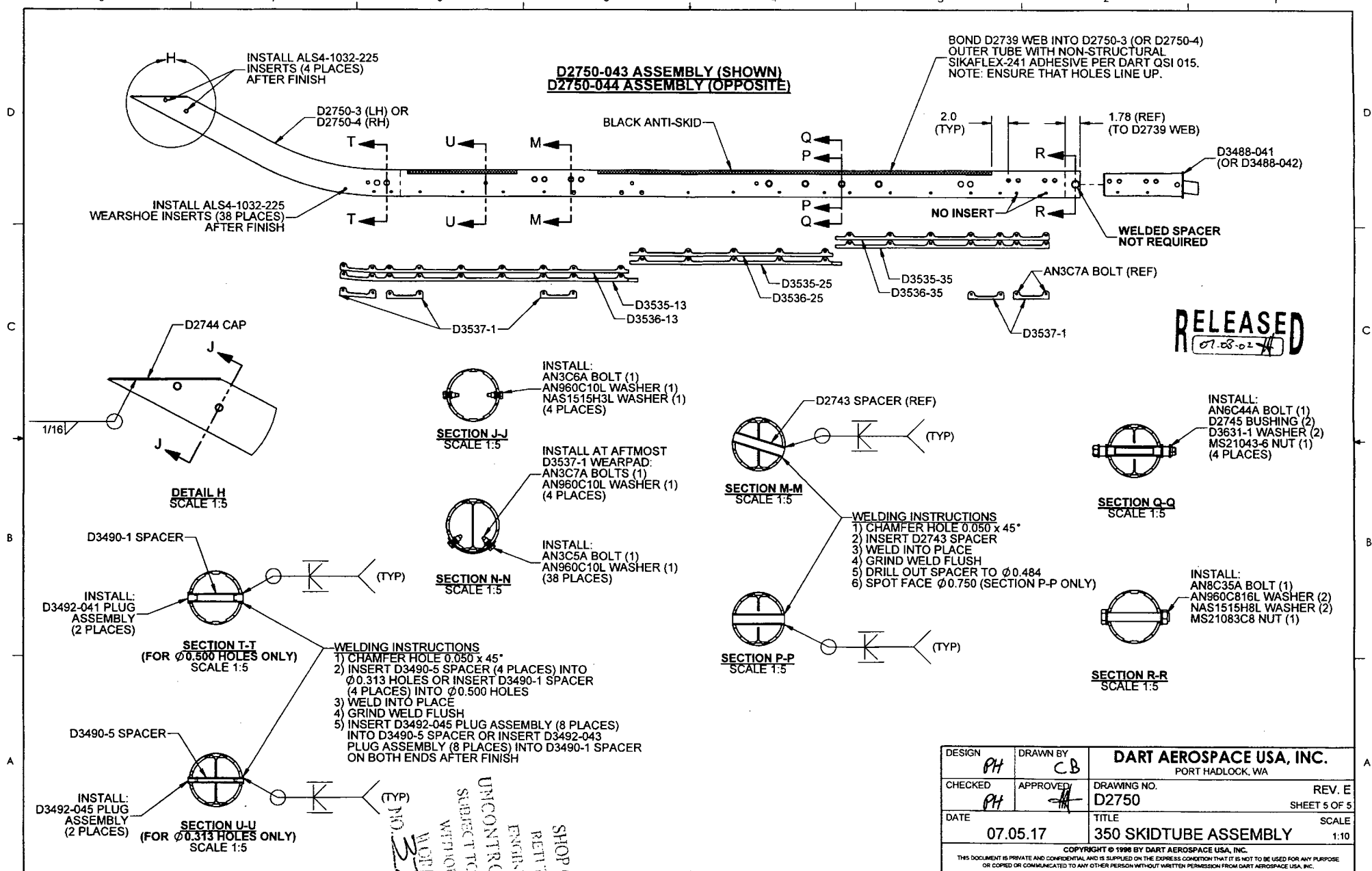
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| | | | | PORT HADLOCK, WA | |
| CHECKED | DH | APPROVED | [Signature] | DRAWING NO. | REV. E |
| | | | | D2750 | SHEET 4 OF 5 |
| DATE | 07.05.17 | TITLE | 350 SKIDTUBE ASSEMBLY | SCALE | 1:10 |
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8 7 6 5 4 3 2 1



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07-08-01

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